

Fig. 1

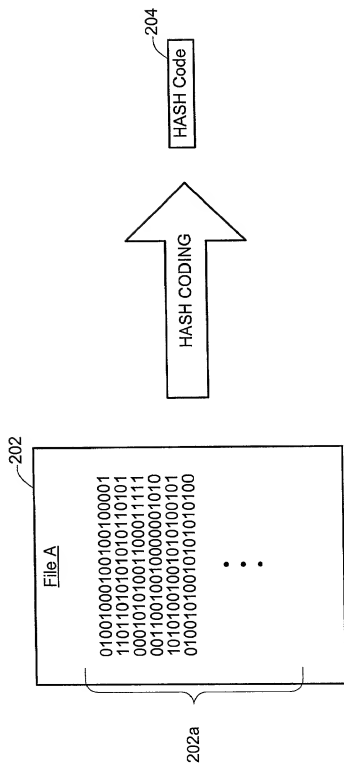


Fig. 2

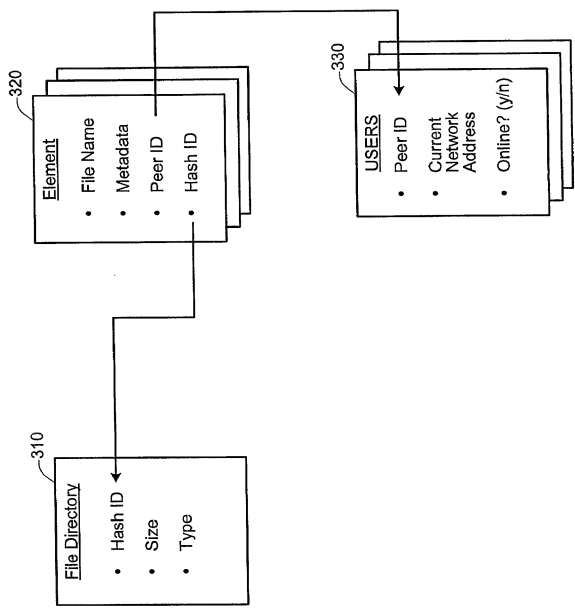


Fig. 3A

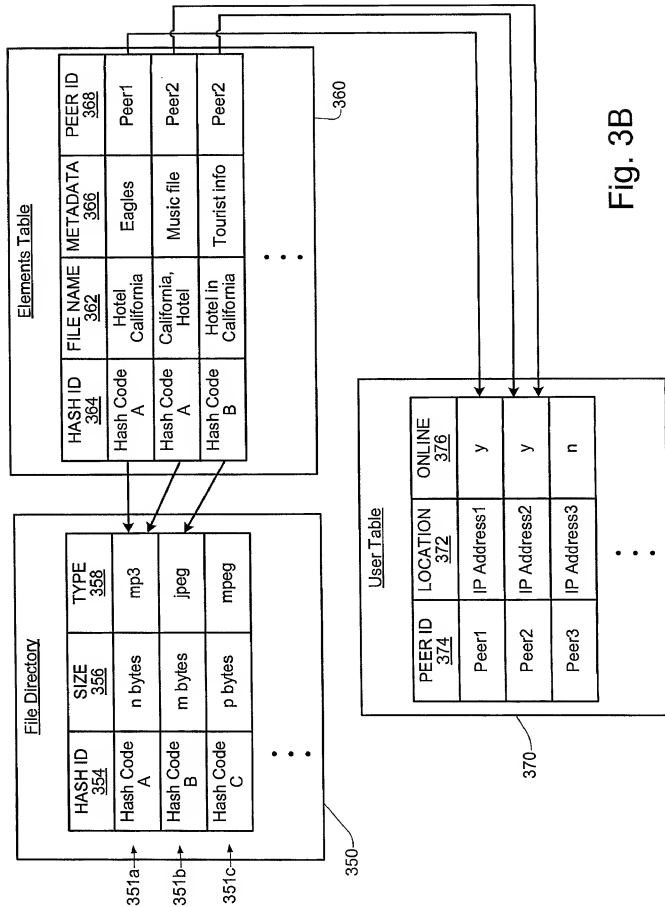


Fig. 3B

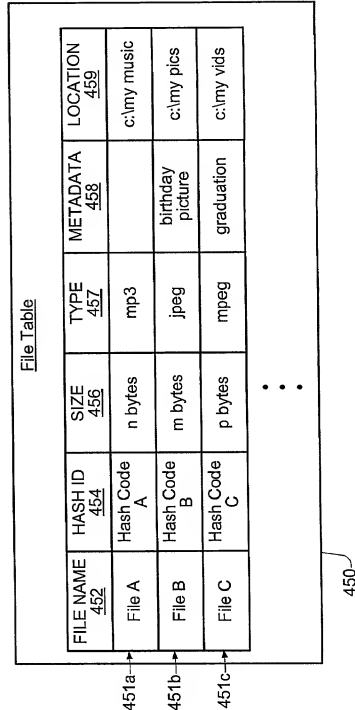


Fig. 4A

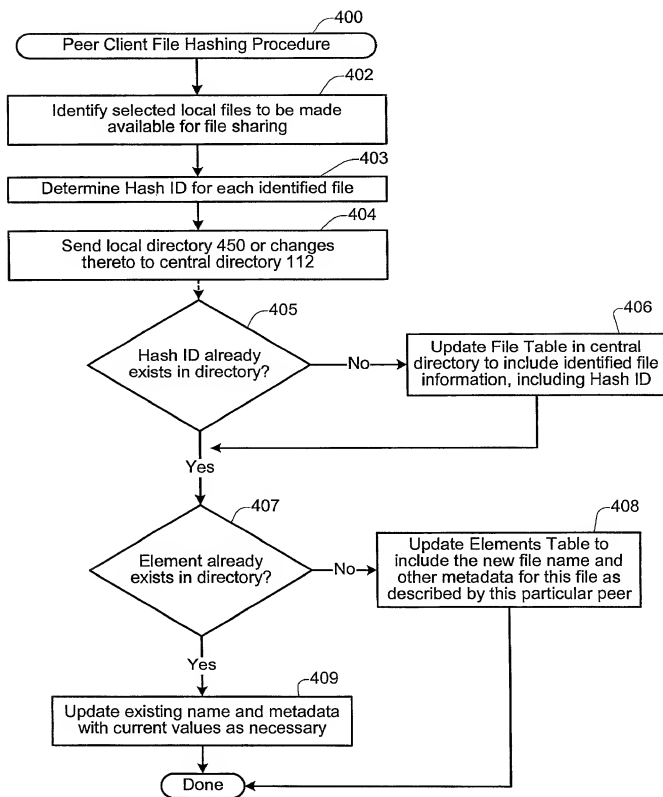


Fig. 4B

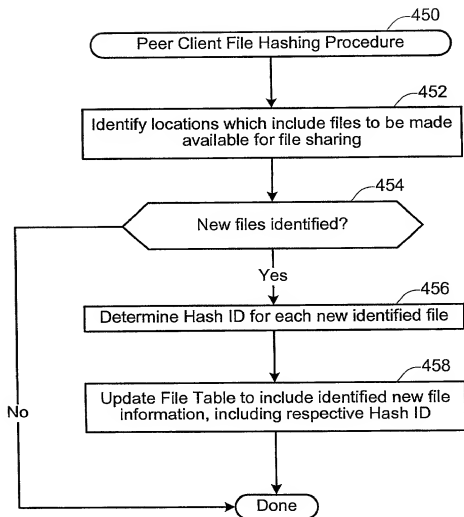


Fig. 4C

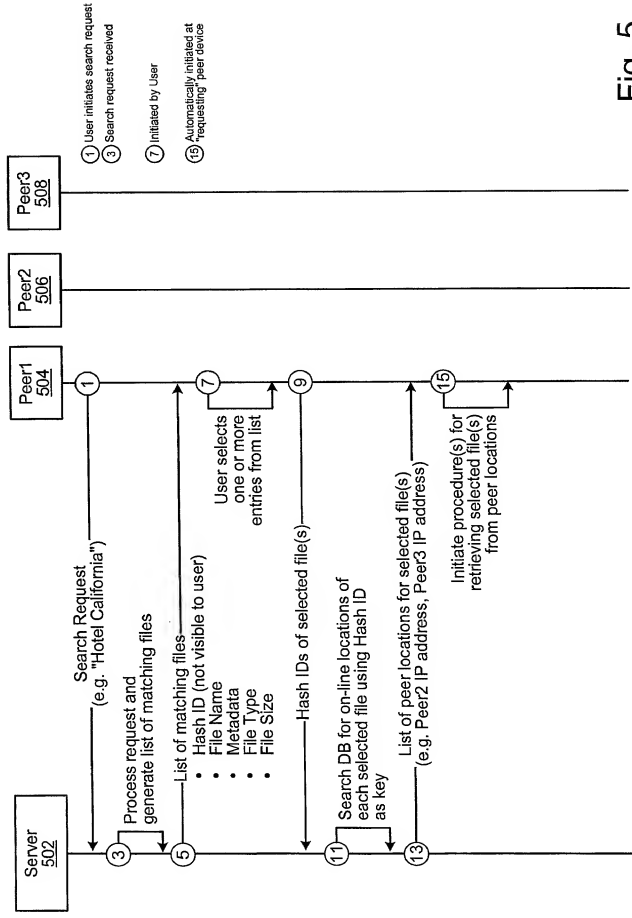


Fig. 5

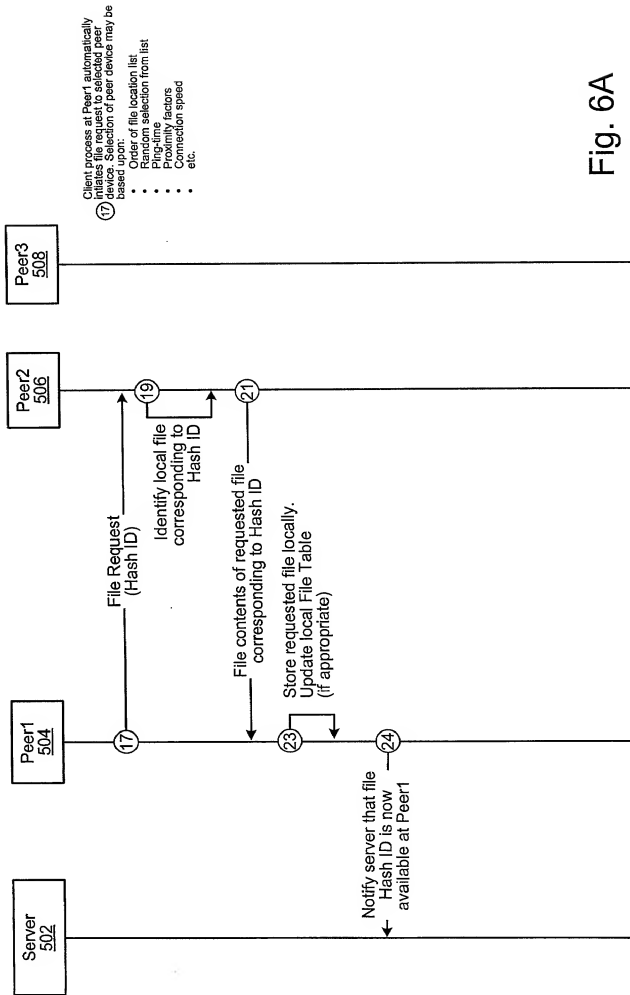


Fig. 6A

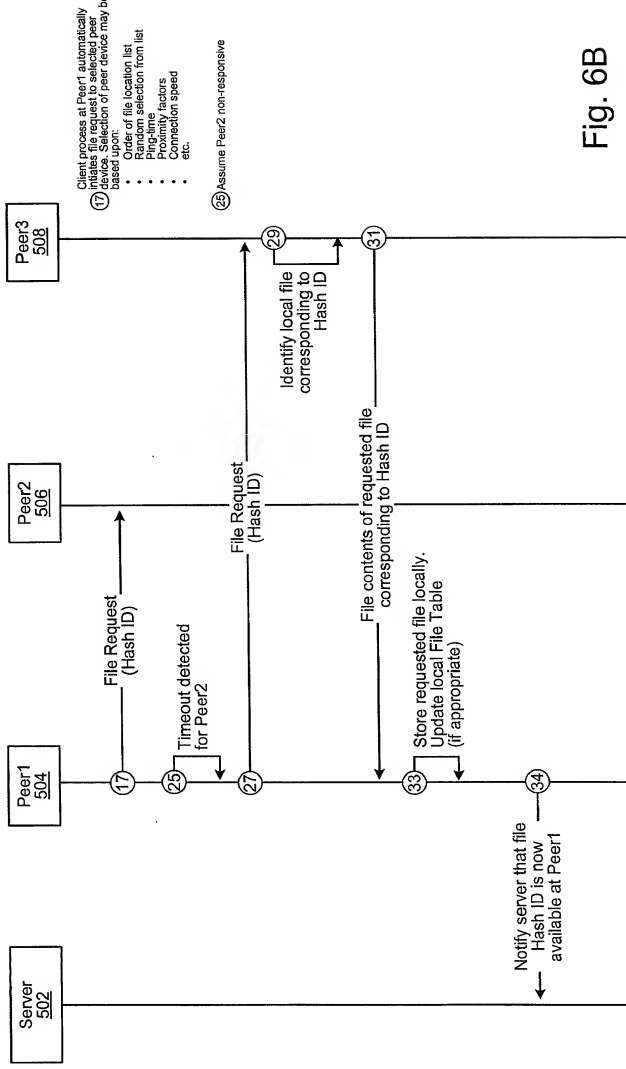


Fig. 6B

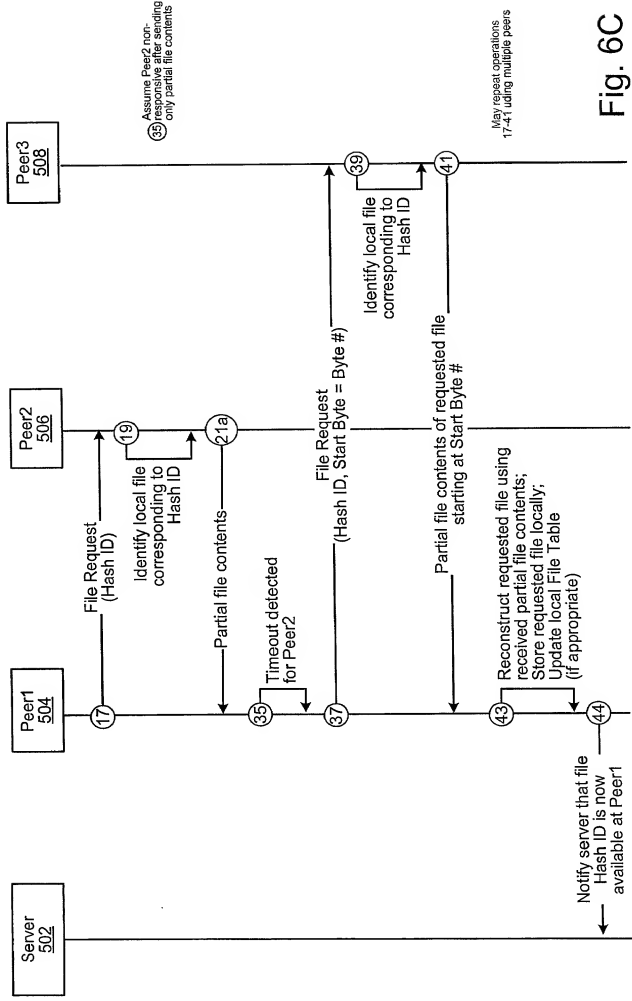
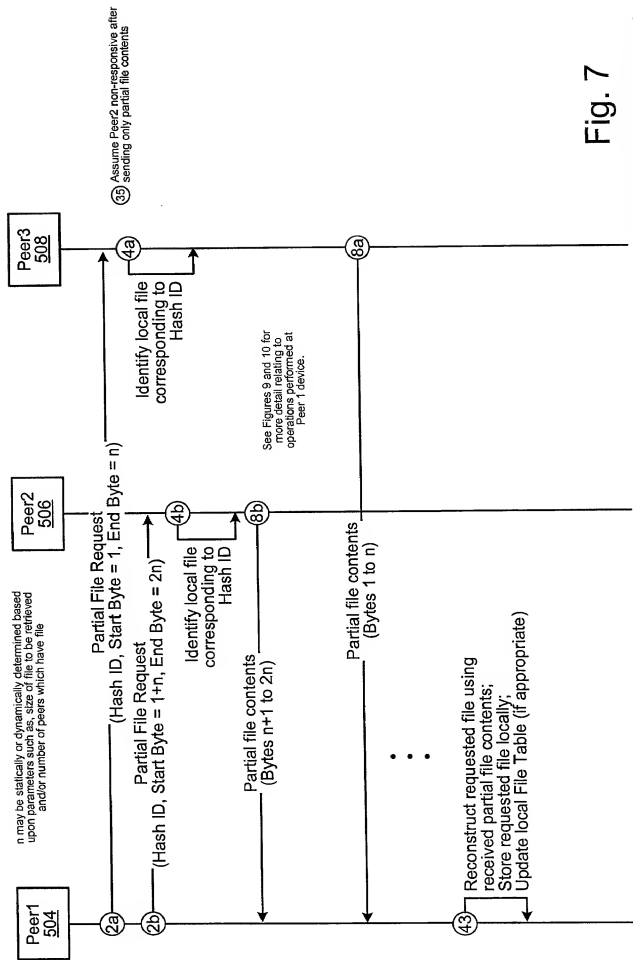


Fig. 6C



n may be statically or dynamically determined based upon parameters such as, size of file to be retrieved and/or number of peers which have file

Partial File Request

Start Byte = 1, End Byte = n)

Partial File Request

start Byte = 1+n, End Byte = 2n)

Identify local file

2

is

See Figures 9 and 10 for more detail relating to operations performed at Peer 1 device.

Partial file contents

...

Reconstruct requested file using
received partial file contents;
Store requested file locally;
Update local File Table (if appropriate)

35 Assume Peer2 non-responsive after sending only partial file contents

Fig. 7

Swarming technique is adaptive mechanism for balancing workload across multiple peers.

Chunk No. = 1	2	3	4	5	6	7	8	9	10	m
AR	ANR	AR	ANR	AR	AR	ANR	AR	AR	NAR	...
										NAR

AR = Assigned and Retrieved

ANR = Assigned and Not Retrieved

NAR = Not Assigned and Not Retrieved

800

Fig. 8

Chunk Map for desired file.
Maintained by Chunk Manager.

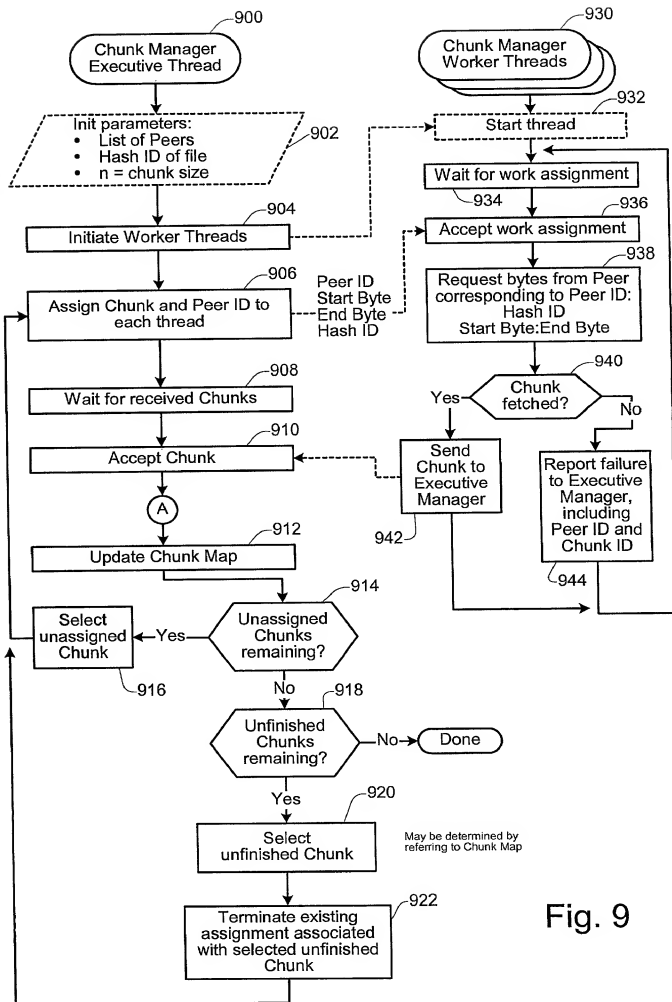


Fig. 9

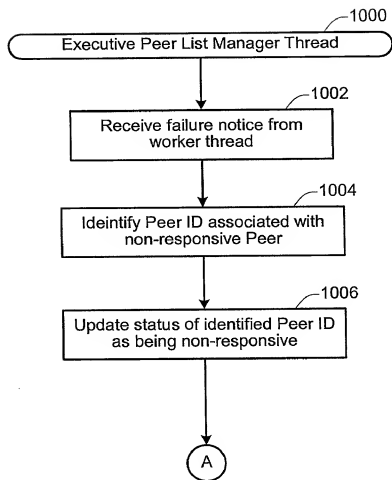


Fig. 10

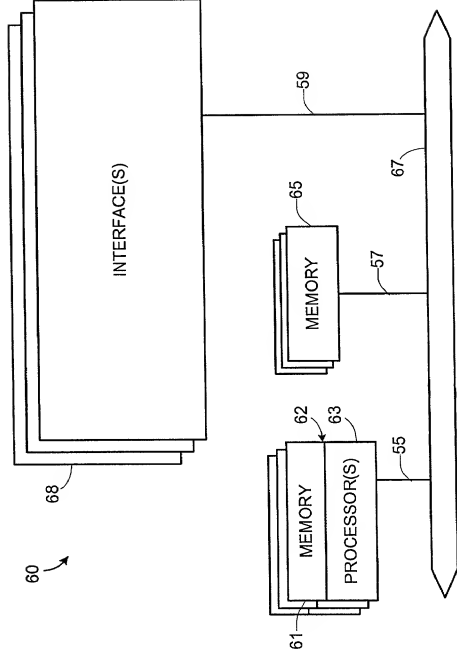


Figure 11

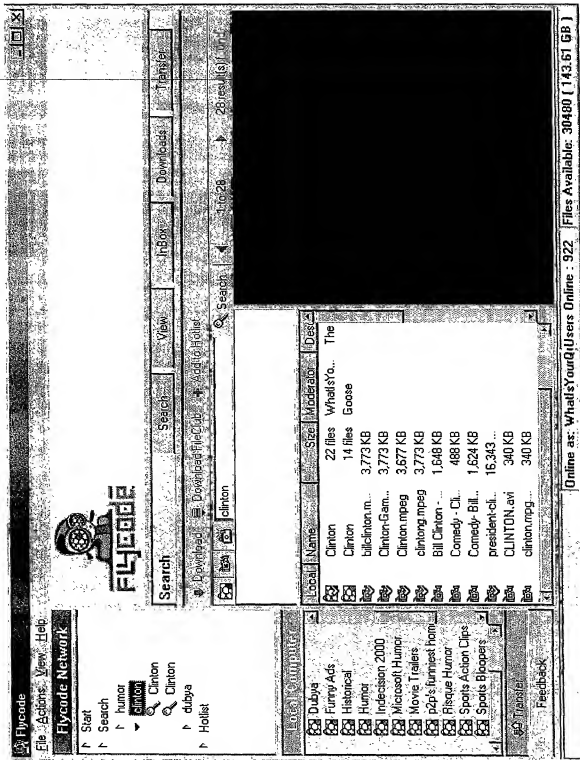


Fig. 12

105190-1900000

1300

Local		Name	Size	Modification
		Clinton	22 files	Whall's Yo...
		Clinton	14 files	Goose
		billclinton.mpeg	3,773 KB	
		Clinton-Game.mpeg	3,773 KB	
		Clinton.mpeg	3,677 KB	
		clinton.mpeg	3,773 KB	
		Clinton - Smack ...	1,648 KB	
		Comedy - Clinton Lo...	488 KB	
		Comedy - Bill Clinton...	1,524 KB	
		president-clinton-fin...	16,343 ...	
		CLINTON.avi	340 KB	
		clinton.mpg.avi	340 KB	

1301

1200

Fig. 13

105190*19008860

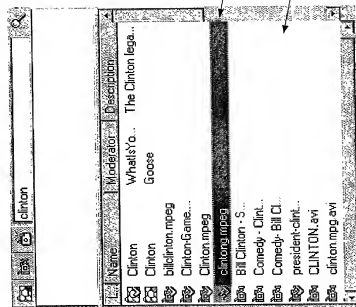


Fig. 14